



**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the application of:

Inventors: Tie Jiang WU; Chien-Chang HUANG; Bo Ching JIANG; Yu-Wei TING;  
Chin-Ling HUANG  
Title: DEVICE AND METHOD FOR DETECTING ALIGNMENT OF DEEP  
TRENCH CAPACITORS AND WORD LINES IN DRAM DEVICES

Date: July 3, 2003

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450



**FEE DESCRIPTION TO ACCOMPANY LETTER TO PTO  
CONTAINING DEPOSIT ACCOUNT ORDER FOR STATUTORY FEES**

This fee description is filed in duplicate, with respect to the request for a deposit account charge in the attached new case transmittal.

- |   |    |                   |
|---|----|-------------------|
| A. <input checked="" type="checkbox"/> Filing Fee   | \$ | <u>750</u>        |
| B. <input checked="" type="checkbox"/> Recording assignment (37 C.F.R. 1.21(h)) (See attached RECORDATION FORM COVERSHEET.)   | \$ | <u>40</u>         |
| C. <input type="checkbox"/> Petition fee for filing by other than all the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached (37 C.F.R. §§ 1.47 and 1.17(i)) | \$ | <u>          </u> |
| D. <input type="checkbox"/> For processing an application with a specification in a non-English language (37 C.F.R. §§ 1.52(d) and 1.17(k))   | \$ | <u>          </u> |
| E. <input type="checkbox"/> Fee for international-type search report (37 C.F.R. 1.21(e))  | \$ | <u>          </u> |

Total fee charge \$ 790

Authorization is made to charge the amount of **US\$790** to Deposit Account No. 502447.

Quintero Law Office  
1617 Broadway, 3<sup>rd</sup> Floor  
Santa Monica, California 90404  
Telephone: (310) 401-6180  
Facsimile: (310) 401-6185

Nelson A. Quintero  
Attorney for Applicant  
Reg. No. 52,143  
Customer No. 34,283

**12. Fee Payment Being Made at This Time**☐ Not Enclosed☐ No filing fee is to be paid at this time☒ Enclosed☒ Filing Fee \$ 750☒ Recording assignment (37 C.F.R. 1.21(h)) (See attached RECORDATION FORM COVERSHEET.) \$ 40☐ Petition fee for filing by other than all the inventors or person on behalf of the inventor where inventor refused to sign or cannot be reached (37 C.F.R. §§ 1.47 and 1.17(i)) \$ \_\_\_\_\_☐ For processing an application with a specification in a non-English language (37 C.F.R. §§ 1.52(d) and 1.17(k)) \$ \_\_\_\_\_☐ Processing and retention fee (37 C.F.R. §§ 1.53(d) and 1.21(l)) \$ \_\_\_\_\_☐ Fee for international-type search report (37 C.F.R. 1.21(e)) \$ \_\_\_\_\_Total Fees Enclosed \$ 790**13. Method of Payment of Fees**☐ Attached is a check in the amount of \$ \_\_\_\_\_☒ Authorization is made to charge the amount of \$ 790☒ to Deposit Account No. 502447.☐ to the Credit card as shown on the attached credit card information authorization form PT-2038.**14. Authorization to Charge Additional Fees**☒ Authorization is made to charge any additional fees which may be required under 37 C.F.R. 1.16 (filing fees and the presentation of extra claims) and 37 C.F.R. 1.17 (application processing fees) to Deposit Account No. 502447.

**15. Instruction as to Overpayment**

  X   Please credit overpayment to Deposit Account No. 502447.

Please send correspondence to:

Quintero Law Office  
1617 Broadway, 3<sup>rd</sup> Floor  
Santa Monica, California 90404

Telephone: (310) 401-6180  
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Respectfully submitted,

A handwritten signature in black ink, appearing to read 'N. Quintero', with a long horizontal stroke extending to the right.

Nelson A. Quintero  
Attorney for Applicant  
Reg. No. 52,143  
**Customer No. 34,283 (please enter this data)**

Attorney Docket No. **10112431**

**PATENT**

Date: **July 3, 2003**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Mail Stop Patent Application**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

**NEW APPLICATION TRANSMITTAL**

Transmitted herewith for filing is the patent application of

Inventor(s):

**Tie Jiang WU; Chien-Chang HUANG; Bo Ching JIANG;  
Yu-Wei TING; Chin-Ling HUANG**

For (title):

**DEVICE AND METHOD FOR DETECTING ALIGNMENT OF DEEP TRENCH  
CAPACITORS AND WORD LINES IN DRAM DEVICES**

**1. Type of Application**

This new application is for a(n)

- ☒ Regular utility (nonprovisional)
- ☐ Design
- ☐ Plant
  
- ☐ Divisional
- ☐ Continuation
- ☐ Continuation-in-part (C-I-P).

**2. Benefit of Prior U.S. Application(s) (35 U.S.C. §§ 119(e), 120, or 121)**

- ☐ The new application being transmitted claims the benefit of prior U.S. application(s).  
Enclosed are ADDED PAGES FOR NEW APPLICATION TRANSMITTAL WHERE  
BENEFIT OF PRIOR U.S. APPLICATION(S) CLAIMED.

**3. Papers Enclosed**

A. Required for filing date under 37 C.F.R. § 1.53(b) (Regular) or 37 C.F.R. 1.153 (Design) Application

11 Page(s) of specification

4 Page(s) of claims

3 Sheet(s) of drawing

☐ The enclosed drawing(s) are photograph(s).

☐ The enclosed drawing(s) are in color. Three (3) sets of color drawings and a "PETITION TO ACCEPT COLOR DRAWING(S)" are attached. 37 C.F.R. §§ 1.84(a)(2) and 1.84(b).

☒ Formal

☐ Informal

B. Other papers enclosed

4 Page(s) of declaration (including power of attorney)

1 Page(s) of abstract

☐ Other:

**4. Additional Papers Enclosed**

☐ Amendment to claims

☐ Cancel in this application claims \_\_\_\_\_ before calculating the filing fee. (At least one independent claim must be retained for filing purposes).

☐ Add the claims shown on the attached amendment. (Claims added have been numbered consecutively following the highest numbered original claims.)

☐ Preliminary Amendment

☐ Information Disclosure Statement (37 C.F.R. § 1.98)

☐ Form PTO-1449 (PTO/SB/08A and 08B)

☐ Citations

☐ Authorization of Attorney(s) to Accept and Follow Instructions from Representative

☒ Return Receipt Postcard in accordance with MPEP 503

☐ Verified Statement Claiming Small Entity Status (37 C.F.R. § 1.27)

☐ Other:

**5. Declaration or Oath (including power of attorney)**

- ☒ Enclosed, executed by
- ☒ inventor(s).
  - ☐ legal representative of inventor(s). 37 C.F.R. §§ 1.42 or 1.43.
  - ☐ joint inventor or person showing a proprietary interest on behalf of inventor who refuses to sign or cannot be reached.
  - ☐ This is the petition required by 37 C.F.R. § 1.47 and the statement required by 37 C.F.R. § 1.47 is also attached. See item 12 below for fee.

☐ Not Enclosed

- ☐ Application is made by a person authorized under 37 C.F.R. § 1.41(c) on behalf of all the above named inventor(s).
- ☐ Showing that the filing is authorized.  
(Not required unless called into question. 37 C.F.R. 1.41(d))

**6. Language**

- ☒ English
- ☐ Non-English
- ☐ The attached translation includes a statement that the translation is accurate. 37 C.F.R. § 1.52(d).

**7. Assignment**

- ☒ An assignment of the invention to: **Nanya Technology Corporation**
- ☒ is attached. A separate RECORDATION FORM COVERSHEET is also attached.
- ☐ will follow.

This is a ☐ continuation ☐ division application and the assignment for the parent application ☐ was filed on ☐.

Reel   
Frame

**8. Foreign Priority Claim (35 U.S.C. § 119(a)-(d)) and Certified Copy**

Certified copy(ies) of application(s)

<b>Taiwan</b>	<b>91123324</b>	<b>10/9/2002</b>
Country	Appln. No.	Filed
Country	Appln. No.	Filed

from which priority is claimed

  X   is (are) attached.  
       will follow.

**9. Request for International-Type Search (37 C.F.R. § 1.104(d))**

       Please prepare an international-type search report for this application at the time  
when national examination on the merits takes place.

**10. Assertion of Small Entity Status**

       Applicant hereby asserts status as a small entity under 37 C.F.R. § 1.27.

**11. Fee Calculation**A.   X   Regular utility application

	Number filed	CLAIMS AS FILED			Rate	Basic Fee 37 C.F.R. § 1.16(a)	
			Number Extra			\$	750
Total Claims (37 C.F.R. § 1.16(c))	12	-20 =	0	x	18	\$	0
Independent Claims (37 C.F.R. § 1.16(b))	2	-3 =	0	x	84	\$	0
Multiple Dependent Claim(s) (37 C.F.R. § 1.16(d))	0			+	280	\$	0

       Amendment canceling extra claims is enclosed.

       Amendment deleting multiple-dependencies is enclosed.

       Fee for extra claims is not being paid at this time.

Filing Fee Calculation \$ 750

B.        Design application (37 C.F.R. 1.16(f))

Filing Fee Calculation \$                     

C.        Plant application (37 C.F.R. 1.16(g))

Filing Fee Calculation \$

**PATENT****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re the application of:

Inventors: Tie Jiang WU; Chien-Chang HUANG; Bo Ching JIANG; Yu-Wei TING;  
Chin-Ling HUANG

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Total fee charge \$ 790Authorization is made to charge the amount of US\$790 to Deposit Account No. 502147.

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